A New Species of *Micronereis* (Annelida, Polychaeta) from the Marshall Islands[1]

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During the course of surveying Eniwetok Atoll, Marshall Islands, for polychaetous annelids in the summers of 1957 and 1958, the author encountered from three localities four specimens of a new species of polychaete belonging to the nereid genus *Micronereis* Claparède. Transects were made of both the ocean and lagoon sides of the islands shown in the map of Eniwetok Atoll (Fig. 1). One of the collecting methods employed was to preserve algae, coral, rocks, sand, etc., in formalin in the field and to sort out the polychaetes in the laboratory. The new species of *Micronereis* was collected in this manner.

family NEREIDAE

Micronereis Claparède

Micronereis eniwetokensis n. sp.
Figs. 2–6

Four complete specimens, each with 17 setigerous segments measuring 1.5 to 2.0 mm. in length, came from three localities in Eniwetok Atoll. The prostomium (Fig. 2) is broadest posteriorly and is clearly separated from the first setigerous segment. The prostomium is weakly indented at its anterior margin. Four pairs of tentacular cirri are broadest near the point of attachment and tapered distally. The short palpi are viewed from the ventral side. There are no prostomial tentacles or peristomium as is characteristic for the genus.

Four large eyes are in trapezoidal arrangement, with the anterior pair being the larger, farther apart, and provided with a clear lens. A variation was noted in the eyes of one specimen (Fig. 3). The anterior pair was elongated and extended posteriorly and laterally to the second pair. Each anterior eye was provided with a large clear lens.

The yellow jaws (Fig. 4) were seen by dissection or by mounting the worm in glycerine. They were broadest at their base and terminated in one large tooth and three smaller teeth. The apical tooth was serrated along its inner margin.

The first two setigerous segments are uniramous with homogomph spinigers. Each has a filiform ventral cirrus.

All parapodia (Fig. 5) are biramous from the third setigerous segment to the posterior end. The rami are widely separated and each has a single black aciculum. The inner margin between the notopodium and neuropodium is ciliated. Each ramus has a cirrus; the dorsal one is longer than the ventral one.

All setae (Fig. 6) are homogomph spinigers with the appendages lacking spines along their margins. The setae number 12–20 in each lobe of the parapodium.

The pygidium is characterized by having a bilobed ventral fleshy membrane and two blunt lateral lobes.

DISCUSSION

Three species are previously known for the genus *Micronereis, M. variegata* Claparède 1863, *M. nanaimoensis* Berkeley and Berkeley 1953, and *M. halei* Hartman 1954. Sexual dimorphism has been described for the former two species. Specialized setae in the third setigerous segment of the male, and a difference in the number of segments between the two sexes, occur in both *M. variegata* and *M. nanaimoensis*. The jaws vary according to sex in *M. variegata*. Additional dimorphic characters in *M. nanaimoensis* include the pygidium, coloration, and capillary setae in

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the male. Sexual dimorphism is unknown for *M. halei* and *M. eniwetokensis*.

The large anterior eyes (Fig. 3) on one individual of *M. eniwetokensis* are an unusual variation for the members of the genus. The appearance of secondary sex characteristics, such as enlargement of the eyes prior to sexual maturity, is widespread in the family Nereidae (Reish, 1957), but it is unknown for the genus *Micronereis* (Berkeley and Berkeley, 1953; Rullier, 1954). No other morphological differences were noted in this specimen collected from 94 ft. of water in the lagoon.

M. eniwetokensis comes closest to *M. varie-*

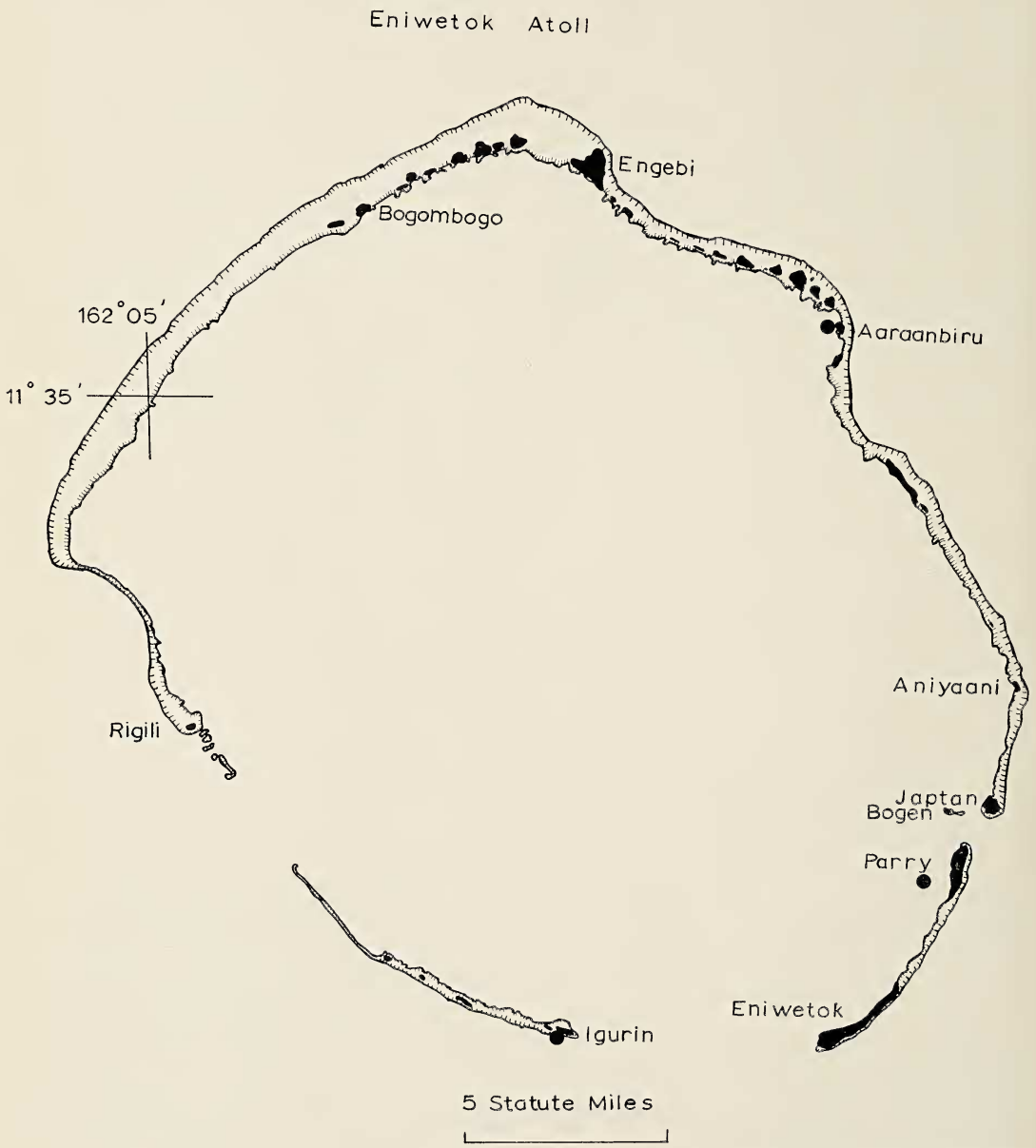
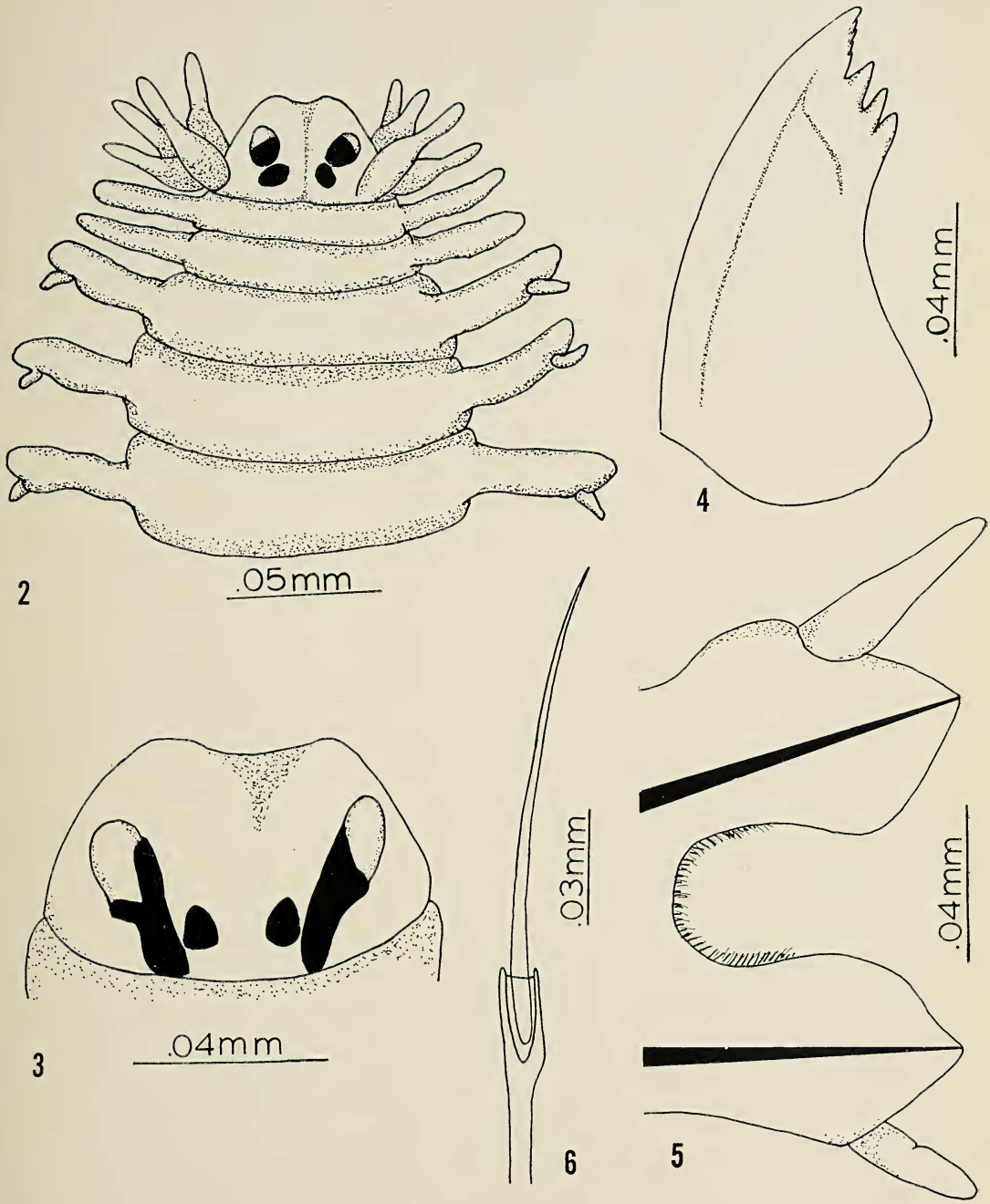


FIG. 1. Map of Eniwetok Atoll, Marshall Islands. Collections were made at the named islands. *Micronereis eniwetokensis* was collected from the areas indicated by the dots.



FIGS. 2–6: 2, Anterior end of the holotype of *Micronereis eniwetokensis;* 3, prostomium of *M. eniwetokensis* with enlarged eyes; specimen collected from a depth of 94 ft. in the lagoon of Eniwetok Atoll; 4, jaw of *M. eniwetokensis;* 5, parapodium from the mid-region of *M. eniwetokensis;* setae omitted from figure; 6, homogomph spiniger from the notopodium of Figure 5.

gata; they differ in the nature of the homogomph spiniger, the pygidium, and the presence or absence of cilia on the parapodia. There are some distinct characteristics for the male of *M. variegata*; it is not known whether or not sexual dimorphism occurs in *M. eniwetokensis*. The diagnostic characters for the known species of the genus are summarized in Table 1.

TYPE MATERIAL: The holotype, one paratype, and two additional specimens have been deposited in the U. S. National Museum.

TYPE LOCALITY: Intertidal region on the lagoon side of Aaraanbiru Island, Eniwetok Atoll, Marshall Islands (Fig. 1).

ECOLOGY: As stated above, pieces of coral rock of loose substrate were preserved in the field at each station visited. *M. eniwetokensis* was collected in this manner. It was associated with the following species of polychaetes:

Aaraanbiru Island, lagoon side, substrate coral rock and beach rock with algae attached. Polychaetes: *M. eniwetokensis* (2 specimens), *Haplosyllis spongicola* Grube (1), *Opistosyllis longicirrata* Monro (6), *Ceratonereis mirabilis* Kinberg (17), *Eunice afra* Peters (1), *Lysidice collaris* Grube (3), *Palola siciliensis* Grube (3), *Dodecaceria laddi* Hartman (2), and *Polyophthalmus pictus* (Dujardin) (19).

Igurin Island, ocean side, substrate coral rock and fragments taken from under coral head near surge zone. Polychaetes: *Micronereis eniwetokensis* (1 specimen), *Eurythoë complanata*

TABLE 1

COMPARISONS OF THE KNOWN SPECIES OF *Micronereis*

CHARACTERISTIC	*M. variegata*	*M. nanaimoensis*	*M. halei*	*M. eniwetokensis*
Length	2–4 mm.	13–15 mm.	7 mm.	1.5–2.0 mm.
Number of setigerous segments				
♂	17–18	23	20–25	17
♀	21	26	(sex unknown)	(sex unknown)
Palpi	absent	present	present	present
Jaws	dimorphic; ♂ 5 teeth ♀ 4 teeth	4–5 teeth	6 teeth	4 teeth
Crotchets in ♂, third segment	2 curved	5+ crested	unknown	unknown
Spines on appendage of homogomph spinigers	present	present	absent	absent
Cilia on parapodia	absent	present	absent	present
Pygidium	2 anal cirri	2 anal cirri in ♂ and ♀; also 2 lateral lobes in ♂	——	2 lateral lobes; ventral bilobed membrane
Unique pigmentation	none	2 red bands on tentacular cirri; see original account for body pigmentation	brown band on tentacular cirri	none
Unique characters	none	capillary setae in ♂	inferior notopodial and superior neuropodial lobes in parapodium	none
Geographical distribution	Europe, Mediterranean Sea	British Columbia, Canada	South Australia	Eniwetok Atoll, Marshall Islands

(Pallas) (2), *Pseudeurythoë oculifera* (Augener) (1), *Genetyllis gracilis* (Kinberg) (1), *Typosyllis variegata* (Grube) (2), *Platynereis pulchella* Gravier (6), *Lysidice collaris* (1), *Palola siciliensis* (1), *Dodecaceria laddi* (2), and *Terebella ehrenbergi* Grube (1).

Parry Island, lagoon side in 94 ft. of water collected by Mr. Mike Chamberlain, 450 ml. of light gray sand. Polychaetes: *Micronereis eniwetokensis* (1 specimen), *Micronephthys sphaerocirrata* (Wesenberg-Lund) (2), previously known only from the Sea of Iran (Wesenberg-Lund, 1949), and *Scolelepis indica* Fauvel (2).

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